CLAIMS

What is claimed is:

1.   A method for issuing or renewing a host address, comprising:

        retrieving a host identifier in a header of a data packet;

5   matching said host identifier with a list of host identifiers;

        maintaining a state of authentication for a host if a match is found, or if not

matched, maintaining a state of unauthentication for said host;

        inserting a proxy address in a relay agent address field in the data packet; and

        transmitting the data packet to an address allocation device to issue or renew said

10   host address if said host is in a state of authentication.

2.   The method of claim 1 wherein said host identifier is a MAC address.

3.   The method of claim 1 further comprising storing said list of host identifiers in a

memory.

15 4.   The method of claim 1 further comprising pairing said list of host identifiers with

a host information list.

5.   The method of claim 1 further comprising discarding said data packet if said host

is in a state of unauthentication.

6.   The method of claim 1 further comprising querying an accounting device to

20   obtain account information for said host.

7.   The method of claim 1 wherein said inserting step further comprises flagging an

option 82 option in said data packet.

8.   A method for issuing or renewing a host address, comprising:

        retrieving a host identifier in a header of a DHCP packet;

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matching said host identifier with a list of host identifiers;

maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host;

inserting a proxy address in a relay agent address field in said DHCP packet; and

5   transmitting said DHCP packet to an address allocation device to issue or renew said host address if said host is in a state of authentication.

9.   The method of claim 8 wherein said host identifier is a MAC address.

10.   The method of claim 8 further comprising storing said list of host identifiers in a

10   memory.

11.   The method of claim 8 further comprising pairing said list of host identifiers with a host information list.

12.   The method of claim 8 further comprising discarding said DHCP packet if said host is in a state of unauthentication.

15   13.   The method of claim 8 further comprising querying an accounting device to obtain account information for said host.

14.   The method of claim 8 wherein said transmitting step further comprises flagging an option 82 option in said DHCP packet.

15.   A method for issuing or renewing a host address, comprising:

20   retrieving a host identifier in a header of a DHCP request packet;

matching said host identifier with a list of host identifiers;

maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host;

inserting a proxy address in a relay agent address field in said DHCP request

packet;

flagging an option 82 option in said DHCP request packet;

transmitting said DHCP request packet to an address allocation device if said host

5   is in a state of authentication;

setting said proxy address in a server identifier address field in a DHCP offer

packet having an assigned host address, said DHCP offer packet received from said

address allocation device in response to said DHCP request packet.

16.   The method of claim 15 wherein said host identifier is a MAC address.

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17.   The method of claim 15 further comprising storing said list of host identifiers in a

memory.

18.   The method of claim 15 further comprising pairing said list of host identifiers

with a host information list.

15   19.   The method of claim 15 further comprising discarding said DHCP request data

packet if said host is in a state of unauthentication.

20.   The method of claim 15 further comprising querying an accounting device to

obtain account information for a host.

21.   An apparatus to issue or renew a host address, comprising:

20   an input device to receive a data packet, said data packet having a host identifier;

a memory to store a list of host identifiers;

a processor to match said host identifier with said list of host identifiers; and

an output device to transmit said data packet to an address allocation device to

issue or renew said host address if a match is found.

22.   The apparatus of claim 21 wherein said host identifier is a MAC address.

23.   The apparatus of claim 21 wherein said memory further comprises a host information list paired with said list of host identifiers.

24.   The apparatus of claim 21 wherein said data packet is discarded if no match is

5   found.

25.   The apparatus of claim 21 wherein said data packet further comprises a relay agent field, said relay agent field having a proxy address.

26.   The apparatus of claim 25 wherein said data packet further comprises a server identifier address field, said server identifier address field having said proxy address.

10   27.   The apparatus of claim 36 wherein said DHCP packet further comprises an option 82 option.

28.   The apparatus of claim 36 further comprising an accounting device to maintain account information for said host.

29.   An apparatus to issue or renew a host address, comprising:

15   means for retrieving a host identifier in a header of a data packet;

        means for matching said host identifier with a list of host identifiers;

        means for maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host;

        means for inserting a proxy address in a relay agent address field in said data

20   packet; and

        means for transmitting said data packet to an address allocation device to issue or renew said host address if said host is in a state of authentication.

30.   The apparatus of claim 29 wherein said host identifier is a MAC address.

31.   The apparatus of claim 29 further comprising means for storing said list of host identifiers.

32.   The apparatus of claim 29 further comprising means for pairing said list of host identifiers with a host information list.

5   33.   The apparatus of claim 29 further comprising means for discarding said data packet if said host is in a state of unauthentication.

34.   The apparatus of claim 29 further comprising means for querying an accounting device to obtain account information for said host.

35.   The apparatus of claim 29 wherein said means for inserting further comprises

10   flagging an option 82 option in said data packet.

36.   An apparatus to issue or renew a host address, comprising:

means for retrieving a host identifier in a header of a DHCP packet;

means for matching said host identifier with a list of host identifiers;

means for maintaining a state of authentication for a host if a match is found, or if

15   not matched, maintaining a state of unauthentication for said host;

means for inserting a proxy address in a relay agent address field in said DHCP

packet; and

means for transmitting said DHCP packet to an address allocation device to issue

or renew said host address if said host is in a state of authentication.

20   37.   The apparatus of claim 36 wherein said host identifier is a MAC address.

38.   The apparatus of claim 36 further comprising means for storing said list of host identifiers.

39.   The apparatus of claim 36 further comprising means for pairing said list of host identifiers with a host information list.

40.   The apparatus of claim 36 further comprising means for discarding said DHCP packet if said host is in a state of unauthentication.

5   41.   The apparatus of claim 36 further comprising means for querying an accounting device to obtain account information for said host.

42.   The apparatus of claim 36 further comprising means for inserting a proxy address in a relay agent address field in said data packet.

43.   The apparatus of claim 36 wherein said means for transmitting further comprises

10   means for flagging an option 82 option in said data packet.

44.   An apparatus to issue or renew an IP address, comprising:

means for retrieving a host identifier in a header of a DHCP request packet;

means for matching said host identifier with a list of host identifiers in said DHCP

proxy;

15   means for maintaining a state of authentication for a host if a match is found, or if

not matched, maintaining a state of unauthentication for said host;

means for inserting a proxy address in a relay agent address field in said DHCP

request packet;

means for flagging an option 82 option in said DHCP request packet;

20   means for transmitting said DHCP request packet to an address allocation device

if said host is in a state of authentication;

means for setting said proxy address in a server identifier address field in a DHCP

offer packet having an assigned host address, said DHCP offer packet received from said

address allocation device in response to said DHCP request packet.

45.   The apparatus of claim 44 wherein said host identifier is a MAC address.

46.   The apparatus of claim 44 further comprising means for storing said list of host

identifiers.

47.   The apparatus of claim 44 further comprising means for pairing said list of host

identifiers with a host information list.

48.   The apparatus of claim 44 further comprising means for discarding said DHCP

request data packet if said host is in a state of unauthentication.

49.   The apparatus of claim 44 further comprising means for querying an account

device to obtain account information for said host.

50.   A program storage device readable by a machine, tangibly embodying a program

of instructions executable by the machine to perform a method for issuing or renewing a

host address, said method comprising:

        retrieving a host identifier in a header of a data packet;

        matching said host identifier with a list of host identifiers;

        maintaining a state of authentication for a host if a match is found, or if not

matched, maintaining a state of unauthentication for said host;

        inserting a proxy address in a relay agent address field in said data packet; and

        transmitting said data packet to an address allocation device to issue or renew said

host address if said host is in a state of authentication.

51.   A program storage device readable by a machine, tangibly embodying a program

of instructions executable by the machine to perform a method for issuing or renewing a

host address, said method comprising:

    retrieving a host identifier in a header of a DHCP packet;

5   matching said host identifier with a list of host identifiers;

    maintaining a state of authentication for a host if a match is found, or if not

matched, maintaining a state of unauthentication for said host;

    inserting a proxy address in a relay agent address field in said DHCP packet; and

    transmitting said DHCP packet to an address allocation device to issue or renew

10   said host address if said host is in a state of authentication.

52.   A program storage device readable by a machine, tangibly embodying a program

of instructions executable by the machine to perform a method for issuing or renewing a

host address, said method comprising:

    retrieving a host identifier in a header of a DHCP request packet;

15   matching said host identifier with a list of host identifiers;

    maintaining a state of authentication for a host if a match is found, or if not

matched, maintaining a state of unauthentication for said host;

    inserting a proxy address in a relay agent address field in said DHCP request

packet;

20   flagging an option 82 option in said DHCP request packet;

    transmitting said DHCP request packet to an address allocation device if said host

is in a state of authentication;

setting said proxy address in a server identifier address field in a DHCP offer

packet having an assigned host address, said DHCP offer packet received from said

address allocation device in response to said DHCP request packet.